60 h

addition, the end plates 6 and 7 for fixing those, pins 8 and stoppers 9 are required, and the total number of parts becomes large to increase the manufacturing cost.

[0010] Next, as a result of a trial operation by actually mounting, for example, a fan to the rotating shaft 1 as a load after an electric motor is assembled using this rotor, when natural frequency of the load coincides with torsional natural frequency of the rotating shaft 1 to cause resonance, the design is forced to be substantially changed. Because the number of parts is large, it may come to design the electric motor again at the worst.

Delete paragraph 0012, and add, as follows:

Bs

[0012] For this reason, in the present invention, a rotor of an electric motor to be arranged inside a stator for generating a revolving magnetic field is provided with a permanent magnet formed in a ring shape; a rotating shaft arranged at the center of the permanent magnet; and a cushioning member made of rubber material having predetermined hardness, vulcanized and molded between the permanent magnet and the rotating shaft. The permanent magnet and the rotating shaft are integrally coupled through the cushioning member.

Delete paragraphs 0019 and 0020, and add, as follows:

BY

[0019] Also, in a method for manufacturing a rotor of an electric motor according to the present invention, a permanent magnet formed in a ring-shape in advance and a rotating shaft are concentrically arranged within a metal mold, thereafter, rubber material in fluid state is poured into a space between the permanent magnet and the rotating shaft to vulcanize and mold a cushioning member having predetermined hardness, and the permanent magnet and the rotating shaft are integrally coupled through the cushioning member.

[0020] In terms of weight reduction, the permanent magnet is preferably made of plastic magnet, and in this case, when the cushioning member is vulcanized and molded within a space between the permanent magnet and the rotating shaft, the molding temperature is controlled to be equal to or less than temperature at which the plastic magnet does not become deformed.

Delete paragraph 0022, and add, as follows:



[0022] FIG. 1 is a cross-sectional view schematically showing a rotor of an electric motor according to an embodiment of the present invention;

FIG. 2 is a side view showing the rotor shown in FIG. 1;

FIG. 3 is a schematic cross-sectional view showing a metal mold device for use in a manufacturing method according to the present invention:

FIG. 4 is a cross-sectional view schematically showing a conventional rotor of an electric motor;

FIG. 5 is a side view showing the rotor shown in FIG. 4; and

FIG. 6 is a side view showing a modified rotor of the invention.

Delete paragraph 0024, and add, as follows:



[0024] This rotor 10 is provided with a permanent magnet 11 formed in a ring shape; a rotating shaft 12 inserted in the center thereof; and a cushioning member 13 made of rubber material having predetermined hardness, vulcanized and molded between the permanent magnet 11 and the rotating shaft 12. The permanent magnet 11 and the rotating shaft 12 are integrally coupled through the cushioning member 13.

Delete paragraphs 0033-0035, and add, as follows:



[0033] Also, through the through-hole 13a (or recess 13a' in Fig. 6) of the cushioning member 13, the displacement of the cushioning member 13 itself is absorbed, and therefore, its vibration isolation effect can be enhanced.

[0034] Also, for main components, only the ring-shaped permanent magnet 11, a merely cylindrical column-shaped rotating shaft 12 having no slip preventing means (rotational support 2 of FIG. 4) and the cushioning member 13 will suffice so that a number of components is reduced unlike the above-described conventional example, and therefore, the electric motor can be manufactured at low cost.

[0035] Further, the above-described manufacturing method under temperature control is only required to perform subsequent processing by cutting and the like for truing up the outside diameter (external